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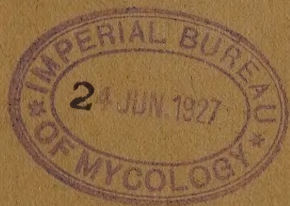
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INTERNATIONAL INSTITUTE OF AGRICULTURE

# INTERNATIONAL BULLETIN OF PLANT PROTECTION

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# INTERNATIONAL BULLETIN

OF

## PLANT PROTECTION

### THIRD LIST OF OFFICIAL PHYTOPATHOLOGICAL CORRESPONDENTS TO THE INTERNATIONAL INSTITUTE OF AGRICULTURE (\*).

(The order of countries is that used in diplomacy, *i. e.* French alphabetical order. The addresses of Correspondents are in the language used by the respective Governments in their official communications with the Institute).

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(\*) This list will be completed in subsequent numbers.

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See : England.

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## DISCOVERIES AND CURRENT EVENTS IN WORLD PHYTOPATHOLOGY

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### Italy : Pests observed in Apulia and Basilicata (1).

Young wheat, oats, and barley in the provinces of Foggia and Taranto have been somewhat badly attacked by *Mayetiola destructor* and *M. avenae* and to a less degree in the provinces of Lecce and Matera. Particularly oats and barley have suffered damage in some districts of the provinces of Foggia and Taranto. The lack of rain and the favourable climate will make for an increase in similar trouble in the future unless the activities of the two *Mayetiola* are in some way checked.

Control measures against voles in the provinces indicated in the last communication are being carried out on an intensive scale by spraying arsenate of soda and by means of zinc phosphide in accordance with the instructions of the Observatory.

### Italy : Plague of Voles in Abruzzo (2).

A plague of voles (*Pytimys savii*) has made its appearance in the neighbourhood of Vasto.

Damage caused is very serious in the Communes of San Salvo (Contrada Padula), Cupello (contrada Bufalora) and Vasto (Contrada Collepizzuto), but very slight in others. The most seriously damaged crop is wheat.

### Southern Rhodesia : Insect Pests (3).

**Maize.** — This crop has not been seriously attacked by insect pests, with the exception of *Calamistis* (*Busseola*) *fusca*, Hmps. (Maize Stalk Borer). This insect has been unusually prevalent.

**Tobacco.** — Pests reported include the following: — (1) Larvae of *Trachynotus* sp. (Fam. *Tenebrionidae*), (2) Adults of *Gonocephalum*

(1) Communication from Dr. Giovanni MARTELLI, Director of the "R. Osservatorio di Fitopatologia" of Apulia, at Taranto, forwarded by the "R. Stazione di Patologia vegetale" of Rome, official correspondent to the Institute.

(2) Communication from the phytopathological Delegate of Abruzzo, forwarded by the "R. Stazione di Patologia vegetale" of Rome, official correspondent to the Institute.

(3) Communication from the official correspondent to the Institute, R. W. JACK, Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia, South Africa.



*simplex*, F. (Fam. Tenebrionidae), (3) Larvae of *Euxoa* sp. (Noctuidae), (4) *Phthorimaea heliopa*, Lwr. (Tineidae), (5) *Phthorimaea operculella*, Zeill., (6) *Heliothis obsoleta*, Fab. (Noctuidae), (7) *Maxentius pinguis* (Gryllidae), (8) *Heterodera radicola*, Greef. (Nematoda).

Cotton. — Much less interest is being taken in this crop than last year and no complaints of pests apart from general feeders such as Cutworms etc. have been received.

Citrus Fruits. — Pests have included only regularly injurious species such as *Chrysomphalus aurantii*, Mask., *Coccus hesperidum*, L., *Aphis tavaresi*, Del Guercio, and *Citrus Thrips* (sp. nov.).

#### Switzerland: Early Appearance of "Potato Disease" (1).

Potato disease (*Phytophthora infestans* De By.) made its first appearance in 1926 at an earlier date than has ever previously been noted. It was first observed on 8 June, though hitherto it has usually not been in evidence in our experience before the beginning of July. Its early appearance and the weather were responsible for the complete failure of the early potato crop. Spraying was too late to have proper effect.

#### Switzerland: Gray Mould and other Diseases on Vine shoots (2).

This disease, which is new to our district, was noticed at the end of May and the beginning of June in vineyards on Lake Zurich. Young vine shoots about 15-30 cm. long, chiefly of the Räuschling variety, a few of Riesling Sylvaner, first became flabby at the apex, then drooped more and more, until finally they were torn right away from their attachment to the main stem so as to hang down and often actually reach the ground. On the lowest division of the green shoot there was found either a discoloured, brownish somewhat sunken area, or at a more advanced stage of the attack this part was completely enveloped by the hairy gray mould *Botrytis cinerea*. We attributed the unexpected appearance of this disease to a weakening of the attacked vine shoots by frost, which on the night of 9-10 May had done great damage to vines in several places. Otherwise, in view of such a sharp attack of *B. cinerea* in our vineyards it was difficult to understand why this fungus should suddenly attack such well developed vine shoots. Although gray mould on vine shoots was new to us the phenomenon had been noted previously e. g. by von Forx in April 1895 on Algerian grapes.

Another disease new to our country, as was gray mould on vines, appeared on vines in the district of Sargans (Canton S. Gallen).

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(1) Communication from the official correspondent to the Institute, Dr. E. NEUWEILER, Swiss Agricultural Experimental Station, Oerlikon-Zurich.

(2) Communication from the official correspondent to the Institute, Dr. A. OSTERWALDER, Swiss Experimental Station for Fruit, Vines and Market-Gardening, Wädenswil.

In the second half of June on growths from old stocks shoots for "cuttings" of Clävner-Reben, about 10 cm. to  $\frac{1}{2}$  metre long, became dry and started to droop away at the apices. The leaves withered and fell until the bare shoots, often with one or two buds on them, projected from the remnants of the foliage. The stripped vine shoots retained their normal position without drooping as long as their place of connection with the main stem did not rot. As the affected new sprouts deteriorated on their emergence, brownish spots were apparent from day to day at the affected part. The vascular bundles were attacked here and there, the vessels becoming filled with fungus filaments, as happens to vine leaves attacked by *Pseudopeziza tracheiphila* Müller-Thurgau. A pure culture of the fungus on gelatine revealed the cause to be this fungus. The disease did great damage in vineyards round Sargans while it was only encountered once or twice in the hill vineyards on lake Zurich.

Damage due not to parasites but to sodium chlorate has been becoming more and more frequent of late years especially in vineyards near main roads or railway lines, where this chemical has been used in solution against weeds. The damage generally occurs on vines in the outside rows just next to the roads or permanent way. The leaves become spotted with a brown red colour, and over the whole surface of the leaves the more delicate nerves are fringed with this colour. The damage reminds one of the well known discoloration caused by *Tetranychus* on vine leaves, or in an advanced stage, to badly *Plasmopara* diseased leaves of the vine. In warm weather the leaves curl up and fall prematurely.

#### Syria : Fungous Diseases of the Pistachio Tree (1).

A disease has been notified at Déré-Kouyou of the Sandjak of Alexandretta (Syria) and in the region of Aleppo, in a plantation of pistachios (*Pistacia vera* L.) at an altitude of 520 metres. This disease, already known as attacking the mastich tree (*P. Lentiscus* L.), has made its appearance for the first time this year on the pistachio. It starts at the beginning of the month of June and attacks older plants rather than the young growth. It is first seen as small black dots on the leaves. The fruit of the trees attacked falls prematurely with a consequent total or partial failure of the crop according to the intensity of the attack.

On examination of samples taken from affected trees it was found that the leaves were attacked by two distinct diseases :—

(1) Pistachio rust (*Uromyces Terebinthi* Wint. = *Pileolaria Terebinthi* Cast.): this rust appeared upon few of the leaves, probably being more in

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(1) Communication from the official correspondent to the Institute, M. Raphaël HALLAGE, Inspector of the Consultative Commission of Epiphyties attached to the High Commission of the French Republic in Syria and Lebanon, at Damascus.



evidence in the summer. It attacks the pistachio proper and the terebinth tree (*P. Terebinthus* L.);

(2) The *Septoria pistacina* Allesch.: this fungus, known for a long time on the pistachio in South Russia, is the same as that which is attacking the Syrian pistachio plantation. It forms small black amorphous dots on nearly all the leaves, but possibly its development was encouraged by the loss of vigour in the plants due to rust.

Up to the present no one has yet studied control measures against these diseases. It is however advised by way of experiment to treat once with Bordeaux mixture in winter and several times in spring. Rust might be treated with sulphur in spring.

#### Trinidad : Two new Diseases of Cotton (1).

Two root-rot diseases of cotton previously unknown to occur in Trinidad have been recently found by Dr. H. R. BRITON-JONES attacking Nanking Cotton. The fungi causing the diseases both belong to the Genus *Rhizoctonia*. They are *R. Crocorum* (Pers.) D. C. and *R. bataticola* (Taub.) Butl. The former is recorded for the first time in Trinidad but the latter has been previously found causing a rot of sweet-potatoes under storage conditions.

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### VARIOUS QUESTIONS RELATING TO PLANT PROTECTION IN THE DIFFERENT COUNTRIES

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#### \*Iraq : Campaign against Locusts (2).

During the period 16 December 1926 to 15 January 1927 preparations for the anti-locust campaign have been pushed forward. Temporary Inspectors have been appointed throughout the infested areas, and materials have been dumped in suitable sites. Much anxiety has been felt on account of the non delivery of poisons from England, due to manufacturers' difficulties consequent on the coal strike, but it is now hoped that the bulk of the material will arrive in time.

Locusts which were reported to be feeding into the late autumn and to be damaging maize crops have been identified as *Locusta migratoria*. This is the true migratory locust, but so far as observations go it does not

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(1) Communication from the official correspondent to the Institute, Dr. H. R. BRITON-JONES, Mycologist, Imperial College of Tropical Agriculture and Imperial Department of Agriculture for the West Indies, Trinidad.

(2) Communication from the official correspondent to the Institute, J. F. WEBSTER, B. A., Inspector-General of Agriculture, Baghdad, 'Iraq.

seem to have reached serious pest conditions, and indeed seems to have modified its habits to a non migratory type.

#### Switzerland: Extermination of Grassland Weeds (1).

The Bitter Dock (*Rumex obtusifolius* L.) is one of the commonest weeds of grass land. A promising counter measure is treatment with chemicals in addition to uprooting or cutting off the flower heads. Initial experiments with sodium chlorate were unsatisfactory. On cultivated land it is definitely harmful, while it has proved a failure in attempts to free courtyards from weeds. Considerable success was achieved against this dock in meadows by first cutting off the inflorescences and then pouring a litre of water over the plant and introducing one of the following substances on the fresh wounds:— Dry potassic salt (20 gm. per plant), dry sodium chlorate (15 gm. per plant) and in a 1 % solution (1 ½ l. per plant), barium chloride in a 1 % solution (1 ½ l. per plant), picric acid in a 0.2 % solution (1 l. per plant). The best result was obtained initially with barium chloride. In the presence of potassic salts the ordinary meadow flora was greatly benefited, while the other substances used merely destroyed the weed, and in its place the grass gradually grew up.

### LEGISLATIVE AND ADMINISTRATIVE MEASURES

#### Cyrenaica (2). — See Libya.

**France.** — A “Syndicat de défense et de recherches contre la Cochylys et l'Eudémis” has been formed at Adissan (Hérault) to deal with these two vine pests, *Conchylis ambiguella* Hb. and *Polychrosis botrana* Schiff.

The Commission which has been nominated for the purpose has decided on the following plan of action: — (1) the constitution of a Syndicate with special regulations; (2) the formation of a large sector of vineyards as an experimental field; (3) a formal pledge on the part of the members of the Syndicate to apply carefully the counter measures laid down; (4) the inspection of the sector and organization of posts for observing the flight of the moths, effect of traps, etc.; treatments employed to be as seems most desirable at any given moment. (*Le Progrès agricole et viticole*, Montpellier 1927, 48<sup>e</sup> année, n° 12, p. 297-298).

(1) Communication from the official correspondent to the Institute, Dr. E. NEUWEILER, Swiss Agricultural Experimental Station, Oerlikon-Zurich.

(2) The countries are arranged in the French alphabetical order.



**Italy.** — By Royal Decree, No. 147, of 9 January 1927, the special regulation for the use of poisonous gases was approved.

This regulation also provides for the utilization of poisonous gases in the open country both for ordinary agricultural and for phytopathological purposes. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68<sup>o</sup>, n. 49, pp. 902-915).

\* \* The Royal Decree-law No. 150, of 13 February 1927 lays down that products impregnated with hydrocyanic acid, for use in the destruction of plant parasites, shall be subject to the same treatment on importation into the Kingdom as are preparations based on salts of copper against cryptogams, grape phylloxera and grape mildew, provided that any conditions which may have been established by decree of the Minister of Finance in conjunction with the Minister of National Economy are observed. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68<sup>o</sup>, n. 41, p. 183).

\* \* The Minister of National Economy by a decree of 3 March 1927, which comes into force 1 May next — after which date the ministerial decrees of 21 February and 4 August 1921 will cease to operate — has issued the following regulations:—

Importation from abroad of live plants, parts of plants, seeds and other plant products, destined for propagation and reproduction, can be made through the custom-houses of Turin, Milan, Verona, Udine, Trieste, Venice, Ventimiglia, Genoa, Livorno, Rome, Naples, Catania, Syracuse, Palermo, Cagliari, Brindisi and Taranto.

Packages containing these goods presented at other custom-houses are to be refused entry. They may however be forwarded to the nearest of the above custom-houses, in cases where the parties concerned on demand by the custom-house officers declare themselves willing to bear the cost of forwarding.

If the railway station, to which the packages are addressed, lies between the frontier station and that of one of the above custom-houses, or is on a branch line from that which the packages would have to follow to reach one of these special custom-houses, the custom-house officers of the frontier station at which the packages arrive, are authorized to retain them at the request of the interested parties and promptly to inform the proper phytopathological Observatory of the district, which will provide for the prescribed inspection in the manner and at the place deemed most convenient, at the expense of the party concerned.

Packages as above coming to one of these custom-houses may be imported after inspection by a special phytopathological officer, recommended by the Ministry of National Economy to the local custom-house in accordance with art. 18 of regulation No. 723 of 12 March 1916.

Whenever packages are passed for importation such precautionary measures as are provided for in arts. 18, 20 and 21 of regulation No. 723 of 12 March 1916 are applied to them by the special officer at the expense of the interested parties.

Citrus plants and their parts, except fruits, may, after being passed as free from exotic parasites by the phytopathological officer, be imported,

but must first be quarantined as laid down in art. 20 of regulation No. 723 of 12 March 1926.

The same regulations apply for fruit-bearing plants and their parts, except fruits, coming from Canada, the United States, Chile, Hawaii, Japan, China, Australia, South Africa and Argentina.

Fodder crop seeds may be imported after determination of the absence of every species of *Cuscuta*. This determination is made by the phytopathological officer, or by an official seed-testing laboratory on a sample taken by the former. The expenses of analysis and storage are charged to the parties concerned.

Temporary importation of the said seeds — i. e., importation prior to re-exportation is governed by the rules contained in art. 17 of regulation No. 723 of 12 March 1916.

Importation and transit of the following plants or parts of plants is suspended :

(a) Cuttings and rooted cuttings of European and American vines coming from France, Spain, the United States, Canada, in view of black rot (*Guignardia Bidwellii*), the present regulations against grape phylloxera holding good;

(b) Plants, bark and branches and trunks covered with bark, fruits and seeds of chestnut from North and South America, China and the Far East in general, as from all those countries that have not taken precautionary measures against the chestnut canker (*Endothia parasitica*);

(c) Fresh fruit of all kinds from the following States :— Canada, the United States, Chile, Hawaii, Japan, China, Australia, South Africa and Argentina, in view of the San José scale (*Aonidella pernicioso*), of the oriental fruit moth (*Laspeyresia molesta*), of exotic fruit flies and of the cryptogam *Diaportha pernicioso*;

(d) Citrus fruits and fresh peel of these fruits from all foreign countries in view of long scale (*Lepidosaphes gloverii*), of the white fly (*Aleyrodes citri*), and of the cryptogams *Bacterium Citri*, *Corticium salmonicolor*, *Sphaeropsis tumefaciens* and *Gloeosporium limetticolum*;

(e) Potato tubers, fruits and green parts of all kinds of *Solanaceae* (tomato, egg plant, capsicum, etc.) from all foreign countries, in view of wart disease of the potato (*Synchytrium endobioticum*), of the potato tuber moth (*Phthorimaea operculella*) and of the American Coleoptera, *Doryphora decemlineata* and *Epitrix cucumeris*;

(f) Stalks and cobs of maize (*Zea Mays*) coming from all countries in Africa in view of *Sesamia calamistis*;

(g) Plants and fruits of the banana, in view of *Pseudococcus comstocki*, of the Argentine ant (*Iridomyrmex humilis*) and of the cryptogams *Thielaviopsis paradoxa* and *Fusarium cubense*;

(h) Plants and fruits of the pineapple, owing to the danger of their introducing dangerous exotic scale insects, as well as the cryptogams *Thielaviopsis paradoxa* and *Fusarium cubense*;

(i) Whole almond fruits, in view of almond *Eurytoma* and the cryptogam *Ascochyta chlorospora*;



(l) Fresh palm and laurel leaves, owing to the danger of their introducing dangerous exotic scale insects not existing in Italy.

The above regulations apply also to all plants, parts of plants and seeds, destined for propagation, and to other plant products brought by travellers from abroad.

Steamers entering Italian ports are not allowed to unload into bond plants, parts of plants and other plant products, whose importation and transit has been suspended.

These regulations do not apply to importations made on behalf of the Ministry of National Economy.

Plant products destined for food or industrial use — apart from those enumerated above, the importation or transit of which has been suspended — may be imported through any custom-house, art. 17 of regulation No. 723 of 12 March 1916 still holding good. (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68°, n. 73, pp. 1369-1371).

\*\*\* Following the confirmation of the presence of grape phylloxera [*Phylloxera vastatrix*] in the Commune of Ielsi, in the province of Campobasso, a decree of the Ministry of National Economy, dated 4 March 1927, has extended to this Commune the measures contained in articles 10-14 of regulation No. 1099 of 13 June 1918, relating to the exportation of such materials as are indicated in nos. 1, 2, 3 and 4 of art. 10 of the same regulation (*Gazzetta ufficiale del Regno d'Italia*, Roma, 1927, anno 68°, n. 56, p. 1048).

**Lybia.** — By a decree of 13 September 1926 the Minister for the Colonies in conjunction with the Minister for National Economy, has laid down the rules to be followed for giving effect to Royal Decree No. 270 of 24 January 1926, relating to the organization of the Phytopathological Service in the Lybian Colonies.

Live plants, parts of plants, seeds, and other plant products destined for Lybia may only be brought in through the port of Tripoli for Tripolitania and of Bengasi for Cyrenaica, after an examination by a special officer of the Phytopathological Service.

The importation and transit of the following plants or parts of plants is suspended :—

(a) Cuttings and rooted cuttings of European and American vines coming from France, Spain, the United States, and Canada in view of black-rot of the grape (*Guignardia Bidwellii*) the present regulations against grape phylloxera holding good according to the Royal Decree No. 157 of 27 February 1913 ;

(b) Plants, bark, branches, and trunks covered with bark, fruits and seeds of chestnuts from North and South America, from China, and from the Far East generally, as from all those countries which have not taken precautionary measures against the chestnut canker (*Endothia parasitica*) ;

(c) Fresh fruit of all kinds coming from the following States : Canada, United States, Chile, Hawaii, Japan, China and Australia in view of the

San José scale (*Aonidiella pernicios*a), of the oriental fruit moth" (*Laspeyresia molesta*), and of the exotic fruit flies;

(d) Citrus fruits from all foreign countries in view of the long scale (*Lepidosaphes gloverii*), of white fly (*Aleyrodes citri*), and of the circular purple scale (*Chrysomphalus aonidium*);

(e) Potato tubers, fruits, and green parts of every sort of *Solanaceae* (tomato, egg plant, capsicum, etc.), from all foreign countries, in view of wart disease of the potato (*Synchytrium endobioticum*), of the potato tuber moth (*Phthorimaea operculella*), and of the American Coleoptera, *Doryphora decemlineata* and *Epitrix cucumeris*;

(f) Banana plants from every source in view of the Coleopteron, *Cosmopolites sordidus*, banana fruits from countries infected by *Pseudococcus comstocki* (for banana fruit coming from countries immune from this pest previous authorization must be obtained from the Phytopathological Service);

(g) Plants and seeds of cotton coming from the United States, from Mexico, from the States of Central America, and from Egypt, in view of the cotton boll weevil (*Anthonomus grandis*) and of the pink boll worm (*Pectinophora gossypiella*);

(h) Stalks and cobs of maize coming from every country in Africa, in view of *Sesamia calamistis*;

(i) Soil and garden mould from whatever source by reason of the numerous parasites which they may contain.

For the importation of fruit trees including citrus, a previous authorization (upon written request) must be obtained from the Phytopathological Service, as well as an official certificate accompanying the goods sent from their country of origin, stating that the plants themselves do not come from ground infected by grape phylloxera and that they have been grown on land where there are no vines.

Fodder crop seeds may be imported after determination of the absence of every sort of *Cuscuta*. This determination is made by the special Phytopathological officer or by the competent Agricultural Department of the Colony.

For goods coming from Italy the measures in force for dealing with the circulation of plants, parts of plants, and seeds in the home country apply. Goods sent, however, will be accompanied by a certificate of immunity similar to that given for goods sent to foreign countries. (MINISTERO DELLE COLONIE. *Bollettino di informazioni economiche*, Roma, 1927, anno 14<sup>o</sup> [1926], nn. 5-6, pp. 628-629).

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## NOTES

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